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CONTENTS

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TETANUS PROPHYLAXIS*

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This subject has been chosen in view of the fact that many medical men are vague about this aspect and most books do not give a definite code of prophylaxis. The subject is discussed after reviewing current literature. It is common knowledge to observe that any man who walks into the casualty department of any hospital with a history of injury or cut is given prophylactic antitetanus serum (A. T. S.) of 1,500 units or 3,000 units in addition to the wound dressing and all is forgotten about him. The same person on all subsequent occasions of injury receives the same schedule. At times we also come across severe reactions after A. T. S. administration terminating fatally. Now the questions to be answered are:

(1) Is A. T. S. to be considered a prophylactic at all ?

(2) Is this prophylactic dose of A. T. S. 1,500 I. U. or 3,000 I. U. protective to the individual against tetanus infection ?

(3) Is repeated administration of prophylactic A. T. S. advisable ?

(4) What place respectively has tetanus toxoid and antitetanus serum in prophylaxis ?

(5) Is toxoid the answer for tetanus prophylaxis ?

(6) What are the standard procedures for the prevention of tetanus ?

Before the above questions are answered, we shall briefly consider the infection proper.

Tetanus is caused by an anaerobic organism—clostridium tetanus. The organism gains entrance to the tissues by deep dirty wounds which may be relatively small and sometimes escape serious attention. If conditions are favourable the organism multiplies locally and liberates an exotoxin which disseminates through the body and gives rise to a symptom complex characteristic of the disease i. e., spasm of the voluntary muscles. The condition is essentially

* This is a prepared topic discussed in a seminar with my colleague bacteriologists. I am specially thankful to Dr. S. Subramanian and Dr. (Mrs.) Kunthala Ramachandran.

one of toxaemia, hence the immunity that is aimed at is anti-toxic immunity. It has been worked out that a level of 0·1 unit of antitoxin per ml of serum can prevent an infection. The incubation period varies from 2–14 days—the average being 10 days. Tetanus continues to be a highly fatal disease and the fatality rate is about 66% even in the most advanced countries.

(1) Is A. T. S. to be considered a prophylactic at all ?

The answer is *NO* to a great extent and *YES* to a small extent. It is common knowledge that any method of active immunisation is far superior to the passive method of immunisation and this very much holds good in tetanus. In the administration of A. T. S., the ready made antitoxins are introduced into the circulation. A single dose of 1,500 I. U. of tetanus antitoxin as commercially obtainable, if given intramuscularly, will give a titre of 0·1 unit of antitoxin per ml of serum and by the 4th or 5th day the level starts declining, whereas in an actively immunized individual a booster dose produces a prompt call and a high level of antitoxin (nearly twenty times) which is demonstrable within 3 to 4 days, the level remaining for more than a year far beyond the brief time of passive immunization. Hence the overhaul superiority of active immunization. The only indication for the administration of prophylactic A.T.S. is in a non-immune person and in a person who has not been previously administered the toxoid.

(2) Is this prophylactic dose of A. T. S. 1,500 I. U. or 3,000 I. U. protective to the individual against tetanus infection?

The answer is *No.* Any dosage less than 5,000 units is not helpful. From the records of the Baltimore hospital, 25 patients who had been given 1,500 units of tetanus antitoxin at the time of injury but in whom the symptoms of tetanus appeared, 13 died, thus proving that the initial dose is not sufficient. The recommended dose is 5,000 to 10,000 units and still its protective value is questionable.

(3) Is repeated administration of prophylactic A. T. S. advisable ?

The answer is emphatically *No,* for fear of danger of hypersensitivity. Approximately one out of every 15 individuals receiving subsequent injections of A. T. S. are subject to the dangers of hypersensitivity. In most instances a second or third injection of horse serum results in hypersensitive reactions. It is even said that to develop hypersensitivity, it is not necessary for a person to have had a previous injection of horse serum and this state can be acquired from exposure to horses or even according to some authorities from eating horse meat. A variety of consequences may follow the injection of the horse serum. The most dangerous of course is the rather immediate type of occurrence of fatal anaphylaxis. The more common complication is that of urticaria and serum sickness, in some cases damage to the central nervous system as paraplegia, hemiplegia and encephalitic manifestations of a lasting nature may occur. As is well known to all physicians any of these complications may occur despite careful preliminary tests for sensitivity. As a routine before the administration of horse serum, the patient should be tested for sensitivity to horse serum after careful questioning as to previous injection or other allergic manifestations (conjunctival or intra-cutaneous tests

are useful) and, if negative, A. T. S. may be given. If the antitoxin is given to a hypersensitive patient, it should be given carefully in graded amounts and with added precaution of having adrenaline, antihistamines, etc. If shock should ensue, 1·0 ml of 1/1000 adrenaline should be given I. M. immediately (seconds count).

(4) What place respectively has tetanus toxoid and antitetanus serum in prophylaxis ?

The answer is that tetanus toxoid has all the place in tetanus prophylaxis and A. T. S. has a very limited place until such time as a person is actively immunized. In due course *A. T. S. as a prophylactic should be abandoned.* A. T. S. administration should be restricted to a therapeutic value only.

(5) *Is* toxoid the answer for tetanus prophylaxis ?

The answer is an emphatic *YES.* The active immunization with tetanus toxoid constitutes the best possible prophylaxis against tetanus, but this is of no use in case of injury unless the patient has already received a full immunising schedule of toxoid previously. One injection of tetanus toxoid in a person who has not been previously administered toxoid will not protect him against the danger of infection of the current injury. Active immunization against tetanus was introduced by Ramon in 1925. It must be pointed out, however, that there is an interval of 14 days between the first injection of toxoid and the appearance of significant amounts of antitoxin in the circulating blood stream. On the other hand when the person has received a previous course of toxoid injections, a booster dose produces a prompt call and in 3 to 4 days a level of antitoxin is demonstrable which steadily increases and in seven days a very high level is attained, which remains for more than a year. The schedule of active immunization suggested are :

(i) Fluid toxoid — 3 injections of 1 ml each S. C. (2nd injection at 4 weeks interval and third after 6 weeks).

(ii) Alum precipitated toxoid - 2 injections of 1 ml each at 6 to 8 weeks interval.

(I come to understand that at present toxoid is also available with the King Institute of Preventive Medicine, Guindy).

Standard procedures for prevention of tetanus :

From the above it is clear that *mass active immunization* is the answer in prevention of tetanus in as far as host resistance is concerned. The other two important factors being wound dressing and massive penicillin administration in tetanus prone wounds. It is best to classify the persons into immune and non-immune.

Immune persons : All persons are classified as immune ;

(1) for a period of 6 months after 2 injections of fluid toxoid

(2) for a period of 5 years after the full schedule of active immunisation

(3) for a period of 5 years after a booster dose of fluid toxoid in a person who has once taken full primary schedule of immunisation.

Non-immune persons are those :

(1) when no injection of toxoid is given

(2) when only one injection of toxoid is given

(3) 6 months have elapsed after only 2 injections of toxoid are given

(4) 5 years have elapsed after a course of three injections.

In an immune person :

(1) A booster injection of 0·5 ml of tetanus toxoid will elicit adequate response in persons who have been immunized even 11 years previously.

(2) No booster injection is necessary if a booster was given a year before.

(3) In severe injuries large dose of penicillin i. e., 10 - 20 lakhs of penicillin or 5 mgms per kgm body weight of broad spectrum antibiotic.

In a non-immune person :

(1) 5,000 to 10,000 units of antitoxin I. M.

(2) In severe injuries, in addition, large doses of penicillin or broad spectrum antibiotics.

(3) Some people advocate the simultaneous starting of active immunization with a toxoid in a separate extremity. Care must be taken not to mix the toxoid and antitoxin in the same syringe nor to inject them in the same extremity, because one will inactivate the other. It is best to use separate syringes and needles and separate extremities should be used for each agent. In spite of all this, some amount of antitoxin may neutralize the toxoid in vivo and render it valueless particularly when the serum administered is more than 3,000 units. It is therefore advisable to start active immunisation after 14 days.

Prevention of surgical tetanus :

Sometimes tetanus occurs as a result of surgical intervention, the source of infection may be at the theatre or catgut or dusting powder or any material used, and it is most unfortunate to lose a patient this way. As has been emphasized, the aim should be to develop an *immune society.* In a country like ours, until such an immune society is obtained, every hospital should have a separate tetanus immunization section where everybody should be started on active immunization schedule. In the absence of this, the operations can be classified into *elective* and *emergency* operations. All elective operations or planned operations such as hydrocele, hernia, piles, etc. should be started on active immunisation and after the schedule is completed (usually it takes 6 months), the patient is operated on. In emergency operations such as strangulated hernia, intestinal obstruction, inflicted wounds, etc. if the patient is immune, administer 0·5 ml of toxoid and if non-immune, administer 5,000 units of A. T. S. and proceed with the operation.

Any immune person coming for surgery should be given 0·5 ml of toxoid and proceeded with.

Measures for active immunization :

This should be taken as a national problem and every hospital and all big industrial concerns should have tetanus immunization centres or depots. Every person should be actively immunized and provided with a card where all entries of the injection are made which would indicate his immune status. When such depots are set up and people are appraised about the high fatality of tetanus infection, we are bound to

develop an immune society in a short period. Any way this indiscriminate use of prophylactic A. T. S. with its questionable usefulness and definite dangers should be given up.

The best long term policy will be to actively immunise the infant population with triple vaccine–diphtheria, tetanus and pertussis and keep on boosting every five years with 0·5 ml of fluid toxoid.

Having discussed at length and reviewed the literature on tetanus prophylaxis, a controlled study in a premier institution where facilities are available would yield valuable information and I leave it to the readers to ponder and seek answer to the burning question of tetanus prophylaxis :

(1) Could we give up using A. T. S. for prophylaxis ?

(2) Should tetanus toxoid be given routinely to all accident cases ?

(3) Could A. T. S. and tetanus toxoid be given simultaneously ?

Summary and Conclusions :

Our aim must be to develop an immune society by actively immunizing all persons particularly prone to injury, like workers in industrial concerns.

(2) All physicians and surgeons should take every opportunity to extend as widely as possible the benefits conferred by active immunization against tetanus.

(3) If a patient is immune (by the definition) he should not be given antitoxin and thus exposed unnecessarily to the risks of anaphylaxis, serum sickness or sensitization in future. A reinforcing dose of 0·5 ml of fluid toxoid is ideal.

(4) A. T. S. has a very limited value and only in doses of 5,000 units, with its associated dangers. It is to be given only in non-immune persons as an emergency. In such persons one injection of toxoid is of no use. It is best not to give toxoid even in the other extremity along with A. T. S. for the danger of neutralisation of A. T. S. to some extent. If toxoid is given, it is best given 14 days after A. T. S. administration and the immunisation schedule carried out.

(5) Wound dressing and antibiotic administration are equally important in the prevention of tetanus.

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SURGICAL EMERGENCIES IN THE NEO-NATAL PERIOD *

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Most of the cases that require emergency surgery in the neo-natal period are due to one or other of the various congenital anomalies incompatible with life but are capable of surgical correction. Among these, those produce respiratory distress and intestinal obstruction of one type or other are more common than the others. Other anomalies like congenital heart diseases or hypospadias, exastrophy of the bladder, hare lip and cleft palate do not require emergency surgery in the immediate neo-natal period. One could wait for sometime, plan the operation and carry them out leisurely.

The conditions that produce respiratory distress and which need immediate relief are:—

1. Tracheo-oesophageal fistula with or without oesophageal atresia.
2. Congenital diaphragmatic hernia.
3. The 'Tension Syndrome'.
4. Mycrognathia.
5. Posterior choanal atresia.

The conditions of gastrointestinal tract that require emergency surgery in the neo-natal period are:

1. Atresia or stenosis of the intestinal tract.
2. Congenital hypertrophic pyloric stenosis.
3. Malrotation of the intestines.
4. Meconium ileus.
5. Malformations of the anus and rectum.
6. Hirschsprung's disease.
7. Omphalocele.
8. Peritonitis and haemorrhage.
9. Strangulated hernia.
10. Intestinal obstrucion due to congenital bands and adhesions.

TRACHEO-OESOPHAGEAL FISTULA WITH OR WITHOUT OESOPHAGEAL ATRESIA:

There are several types of this condition. The commonest is the one in which there is a blind upper pouch of the oesophagus and a communication of the lower oesophageal segment with the trachea above the bifurcation. The least common is the one where there is atresia of the oesophagus but no communication with trachea of either the upper or lower segments. Another uncommon variety is the one where there is no atresia of the oesophagus but a communication is present between the oesophagus and the trachea usually high up. This is rather difficult to be diagnosed.

In this condition there is a lot of mucus in the throat and it wells up soon, even after aspiration and overflows at the mouth and the baby blows it out in little bubbles. One must recognise this condition on this finding alone. Otherwise, once the nurse attempts at feeding and fails, the feed may spill over into the trachea from the upper blind pouch. This chokes the baby and produces cyanosis. Another great danger is that the gastric juice is regurgitated through the fistula into the trachea and produces a chemical pneumonia. For the operation to be successful, the baby must be operated before this occurs on the mere suspicion by the presence of the frothy saliva in the mouth. The suspicion can be confirmed by passing a No. 10 F

* Based on a talk given to the Ramnad branch of the I. M. A. at Srivilliputtur on 14—7—1962.

catheter down the mouth. Where there is atresia, the catheter is arrested in the blind pouch. If it cannot be pushed down into the stomach, the mucus must be aspirated continuously and the baby transferred to a place where there are facilities to take x-rays and surgery could be done. When in doubt one c. c. of lipiodol or any of the newer aqueous solution which is easily absorbed, could be instilled into the upper segment of the oesophagus. It will show the blind pouch. In some cases if it spills into the trachea, the fistulous communication between it and the lower oesophagus might also be visualised. On no account barium should be given. Because once it gets into the trachea it is not absorbed but has to be coughed out. Some times it may produce a violent reaction. Once this suspicion is confirmed arrangements for immediate thoracotomy is made. Every minute that it is delayed there will be aspiration of the mucus from the upper blind segment or regurgitation of the acid gastric juice through the fistula into the trachea and pneumonia results, respiration further embarassed and cynosis deepens, and the baby becomes a poor surgical risk. Even a delay of 12 hours increases the morbidity and mortality. So to be effective and life saving the operation must be carried out within the first twelve hours or even earlier. When facilities for immediate surgery are not available, the upper blind segment of the oesophagus must be kept continuously aspirated and an antibiotic is given before the baby is transported. Some people advise doing a gastrostomy for feeding purposes as well in the hope that it will minimise regurgitation through the fistula, though this is of doubtful value. The definitive surgery consists of a thoracotomy division of the fistula and end to end anastamosis of the two segments of the oesophagus. When it is not possible to bring the two segments together, the upper end is brought out in the neck and left open for drainage and a gastrostomy done for feeding purposes. When the child is a few months older and the general condition has improved, a substitute oesophagus made up of the right colon to bridge the gap between the upper and lower segments can be done. Some good results have been reported with this operation.

Congenital tracheo-oesophageal fistula without atresia of the oesophagus is a much less common anomaly. The possibility of its presence must be suspected when the infant gags on swallowing. In these cases the fistula is located generally high up and is oblique in direction, the tracheal opening being cephalad to the oesophageal end of the fistula. Because of this, visualisation of the fistulous communication is difficult even with contrast medium. Sometimes one could see it if the baby is placed in the prone position when swallowing the contrast medium. Treatment is to mobilise the oesophagus from the trachea and closure of the defects in both, either through a cervical approach or by thorcaotomy, depending on the site of the communication as revealed in the x-rays.

CONGENITAL DIAPHRAGMATIC HERNIA:

Though there are different types of diaphragmatic hernia, the commonest is the one due to the defect on the postero-lateral aspect of the diaphragm. Even in this the left side accounts for nearly 80% of the cases. The small bowel, the spleen and a portion of the large bowel are

found usually in the chest. The mobility and shape of the mesentery usually found on operation makes it clear that a large portion of intestine has been developing in the chest before birth. The lung on the affected side is completely collapsed and that on the opposite side may not have fully expanded or adequately aerated because of the mediastinal shift. Within a few hours after birth the intestines get distented with swallowed air and this embarasses the respiration. This is increased by attempted feeding. Cyanosis and dyspnoea are usually early and dramatic. Trachea is shifted to the opposite side and movements of the chest are poor on the affected side. The chest is usually resonant on the affected side or dull if there is fluid in the intestine and the heart is pushed to the opposite side usually to the right in the case with defect in the left half of the diaphragm. On auscultation barborygmus is heard on the left. The abdomen is suspiciously empty on palpation. So the combination of symptoms referable to respiratory, circulatory and digestive systems must arouse the suspicion of this condition. An x-ray chest will confirm the suspicion. There is no need for using any contrast medium for this. The presence of the intestinal gas shadow in the chest and the shifting of the heart to the opposite side are characteristic enough. The only other condition which could simulate these findings is cysts of staphylococcal pneumonia. One diagonostic difference is that the normal gut pattern will be visible in the abdomen, and infection is unlikely in the first twenty four hours. Once diagonosed, surgical interference is the only method of saving the baby. Otherwise it will die of progressive asphyxia. Many surgeons prefer to approach the defect in the diaphragm per abdomen. Once the viscera are released and placed in their normal position, the defect in the diaphragm is closed after sucking away the air in the chest. Here endotracheal anaesthesia and gentle inflation of the lungs by the anaesthetist will be of great help. Many surgeons do not feel the need for any intercostal suction drainage. The affected lung is usually slow to expand and one need not be in a hurry to expand it forcibly. Usually in a few days the lung fills up the chest cavity. Sometimes it is found difficult to close the abdomen because it has to contain the viscera which were in the chest all these days. If it is not possible to close, the skin is sutured at least after releasing it from the underlying muscle, and later on after a year or so formal closure of the muscle layer could be done. New born infants tolerate such procedures well. In the post operative period care is exercised not to give too much I. V. fluid for fear of inducing cerebral oedema as in these cases the brain would have already suffered due to anoxia.

THE TENSION SYNDROME :

This is a condition in which there is progressive collapse of the lungs due to an expanding lesion in the chest which results in progressive cyanosis. The underlying causes may be cysts of staphylococcal pneumonia, tension pneumothorax, pyopneumothorax, congenital lobar emphysema or congenital lung cysts. The physical signs are similar in all these cases - cyanosis, rapid respiration and pulse rate, a hyper-resonant chest and displaced heart are common to all. While cyanosis due to respiratory embarassment in congenital diaphragmatic

hernia occurrs in the first few hours after birth, symptoms due to tension syndrome occur later, in the first week or two. X-ray picture of the chest—especially a good true lateral picture will reveal the underlying causes. Staphylococcal cysts or pneumothorax or pyopneumothorax will respond to interostal drainage and gentle continuous suction. Sensitivity of the organisms to the various antibiotics must be determined whenever possible, a broad spectrum antibiotic combination or erythromycin will be effective. Celbenin—a new type of penicillin has been reported to be of great use in those cases with resistant staphylococci. Usually the cysts resolve without much residual changes in the lungs. Congenital lobar emphysema and congenital lung cysts may require segmental resection or lobectomy at a later stage.

CONGENITAL HEART DISEASES AND VASCULAR RINGS:

In these conditions though the baby may have cyanosis and dyspnoea, emergency surgery is not needed in the immediate neo-natal period. By gentle nursing care the babies are carried over to a period when they will stand complete investigations and surgery if necessary.

POSTERIOR CHOANAL ATRESIA:

Here due to closure of the posterior nares by a septum, the child is not able to breath through the nose. Hence it gets choked when it is fed and especially when both the nostrils are involved. If only one nostril is involved, the condition may be missed till later in life when it presents with chronic nasal discharge. If the tongue is pulled forward, the child could breathe easily. So an airway is kept and the obstructing septum is nibbled away.

MICROGNATHIA:

In this condition the mandible is very poorly developed and hence the tongue falls backward and chokes the child. When there is an associated cleft palate, this condition is called PIERRE-ROBIN SYNDROME. The baby must be nursed in the prone position and the tongue kept pulled forward if necessary with a tongue stitch during a severe attack of asphyxia. Some cases need tracheostomy even and feeding through an indwelling tube. By about three months or so the mandible develops to a fair size and the difficulties are overcome. Cleft palate can be operated at a later stage. No urgency for it as it does not contribute to the respiratory embarassment.

CONDITIONS OF THE INTESTINAL TRACT THAT REQUIRE EMERGENCY SURGERY:

These come to our notice by the presence of intestinal obstruction or peritonitis or sometimes blood in the stools. Before going into the various causes of intestinal obstruction a few words about 'vomiting' in the neo-natal period will not be out of place. Many babies vomit in the first week of life. In many it is not serious and simple symptomatic treatment will be enough. But in a few it is of great importance and may be due to serious mischief in the abdomen. To come to a diagnosis one must note the timing and character of the vomit, when did the vomit begin, whether it is persistent? —persistent vomiting denotes something serious. The nature of the vomit is of great significance. Was the vomit green – it is very important to note this, because bilious vomiting in the first week of life of a full term infant should be considered as due to mechanical intestinal obstruction until proved otherwise. Yellow

vomit is not of special significance because it is not due to bile, but it is due to carotene from the colostrum milk. If the vomit is blood stained it might indicate an oesophageal hiatus hernia or a chalasia of the oesophagus when regurgitation of the gastric contents are present. This responds to management by just propping up the baby. It must also be noted whether the vomit is projectile as in the case of congenital hypertophic pyloric stenosis or effortless as in hiatus hernia or it is only just overflowing of the mucus or feeds from the upper blind pouch of the oesophagus in atresia. It is also necessary to note the nature of the stools. Meconium will be passed unless there is imperforate anus or meconium ileus or severe form of hirschsprung's disease. It is important to note whether the stools show curdled milk in a case seen later and in which feeding has been attempted.

There are three serious conditions in the neo-natal period where a 'green vomit' is seen:

1. Mechanical intestinal obstruction
2. Cerebral birth Injuries
3. Infections

Mechanical intestinal obstructions will be discussed later. Cerebral birth injuries can be suspected from the history of difficult or precipitate delivery. Irregular pulse and respiration, unusual flaccidity and irritability are even frank fits and peripheral circulatory failure may help to diagnose. Infection may cause vomiting without very obvious signs. The temperature may be normal or even subnormal. An infected umbilicus may be the forerunner of portal pyaemia.

The cardinal symptoms of intestinal obstructions are: (1) vomiting, (2) distension of the abdomen and (3) absolute constipation. The colicky pain seen in the adults is not of diagnostic aid in this age group. Vomiting is a most important sign. Distension may be absent in the high obstruction as of the duodenum, because of vomiting. Constipation does not manifest itself till the meconium below the obstruction is passed and that takes 2 to 3 days. So vomiting is the only symptom in many cases, which should draw our attention. Of course in the large bowel obstruction distension is the prominent feature. The vomiting of mechanical obstruction is copious and persistent and often contains bile unless the obstruction is proximal to the ampulla of vater. In the new born vomiting is dangerous because of likelihood of aspiration into the lungs leading to asphyxia and death or pnuemonia and lung abscess. The child's head should be kept low and a soft rubber catheter is passed into the stomach and aspiration done every fifteen minutes. This should be done even before the baby is transferred to the place where further investigations can be done. Every baby with green vomit must have a plain x-ray of the abdomen done. This should include the diaphragm above and pubis below. The presence of air and fluid levels will show the levels of obstructions. In functional obstructions due to neurogenic causes or infection, the distension is diffuse and affects the whole of the bowel equally. In peritonitis the loops may be seen to be separated by the fluid in the peritonial cavity. Some times vigorous crying on the part of the baby itself may produce a uniform gas pattern, in the normal

baby's abdomen but here again the whole tract is equally affected. Once a mechanical obstruction is suspected immediate laparotomy is indicated. No elaborate preoperative preparation is necessary if the condition is diagnosed earlier. Supportive therapy with I. V. fluid is started just before the operation.

To recognise the various conditions and to confirm the clinical suspicion, the following conditions that cause the intestinal obstruction must be kept in mind:

1. Atresia or stenosis of the G. I. tract
2. Malrotation of the intestines
3. Meconium ileus
4. Imperforate anus
5. Congenital hypertrophic pyloric stenosis
6. Hirschsprung's disease
7. Congenital bands and adhesions
8. Incarcerated hernia and strangulation of internal hernia.

Among these, malrotation of the intestines and congenital hypertrophic pyloric stenosis are more common than the others. Probably many cases of intestinal atresia and meconium ileus are not suspected in time and hence many cases are lost without laparotomy.

ATRESIA OR STENOSIS OF THE G. I. TRACT:

Atresia is a developmental defect in which a portion of the gastro-intestinal tract fails to canalise. In 'stenosis partial canalisation has occured so that the lumen is only narrowed or constricted. In atresia there is complete intestinal obstruction. The bowel proximal to the obstruction is dilated and vomiting is noted on the first day of life. Atresia mostly occurs distal to the ampulla of Vater and hence vomit contains bile; but in the rare cases it may occur proximally and hence the vomit may not contain bile. So any new-born infant which vomits on the fist day of life must be suspected to have intestinal obstruction whether the abdomen is distended or not. Not only in the neo-natal period, later on also any child with bilious vomiting should be carefully investigated whether there is distension of the abdomen or not and whether the child is constipated or not. Many cases of duodenal or intestinal atresia or stenosis could be spotted earlier and treatment instituted effectively if only one takes note of this bilious vomiting.

The degree of abdominal distension depends upon the level of obstruction. In duodenal atresia, the distension is usually limited to the epigastrium or may be even absent, if the stomach has remained empty due to vomiting. When the atresia is more distal, the distension is more marked and is progressive. Roentgenogram will reveal the dilated bowel of the intestinal obstruction. After birth, the baby takes its first breath and soon after this swallows its first mouthful of air. This air travels down the intestinal canal and before 12 hours have elapsed, the infant may pass the air per rectum. If there is obstruction, the site at which the air is held up is often clearly visible in the plain x-ray picture. This is particularly true of duodenal atresia where the x-ray shows marked distension of the duodenum. In stenosis, since the obstruction is incomplete, symptoms appear late in life and are less severe and more chronic in nature.

Treatment consists of either multiple anastamosis or Miculicz enterostomy or immediate anastamosis after resection.

MALROTATION OF THE INTESTINES:

This anomaly occurs because the embryonic mid-gut which develops into the terminal ileum, caecum, ascending and mid-transverse colon, fails to complete its normal counter-clock-wise rotation after its return into the peritonial cavity during the tenth week of intrauterine life. As a result the caecum remains in the right upper quadrant. Bands of reflected peritonium from the caecum may cross the duodenum and obstruct it. Further the attachment of the small bowel is short and rudimentary. Because of the short mesentery and lack of fixation of the right colon to the posterior abdominal wall, volvulus of the entire midgut may occur. When obstruction of the duodenum is present, symptoms and signs are similar to those in duodenal atresia. The vomitus is bile stained, the upper abdomen is distended and x-rays show dilatation of the stomach and duodenum. When volvulus occurs, the characteristic findings are pain, vomiting, toxaemia, and abdominal distention.

Treatment consists of laparotomy and incision of the peritonial folds that compress the duodenum and thus release the duodenal obstruction. In cases of volvulus, the bowel must be derotated and, if non-viable, resected. It is surprising but true that the neonates tolerate a large amount of intestinal resection.

MECONIUM ILEUS:

In this due to the impaction of the insipissated meconium there is intestinal obstruction. This condition is associated with either decreased or absent pancreatic enzyme activity. There may be cystic fibrosis of the pancreas. The meconium becomes increasingly sticky and putty-like and blocks the distal ileum usually with distension of the proximal bowel. This condition should be suspected at birth if the amniotic fluid is coloured or fetid and if the abdomen is distended. Plain x-ray of the abdomen shows dilated loops of bowel and a mottled or granular appearance in areas of concentration of the insipissated meconium. Occasionally flecks of calcium are seen throughout the abdomen indicating peritonitis of fœtal life. A completely satisfactory method of treatment is not available for this condition. Treatment of choice is laparotomy with one or more operative enterostomies and manual removal of the meconium. Irrigation through the enterostomy opening with saline, peroxide (1 to 3%) and other solutions have given satisfactory results in some cases. Pancreatic enzymes should be directly introduced through the enterostomy opening. Post-operatively pancreatic enzymes should be given orally for a long time.

IMPERFORATE ANUS:

This may be of several types varying from a membranous diaphragm to a complete absence of the anus and the rectum. Diagnosis is made by inspection at the time of birth or when the child fails to pass meconium. If the condition is unrecognised, several days may elapse before the distension and vomiting due to the intestinal obstruction occur. The x-ray of the abdomen is taken with the infant in inverted position with a metal marker over the anal region. The gas shadow in the colon and rectum indicates the extent of occlusion.

Treatment is by surgery only. Even in cases with associated fistulae like rectovaginal, rectovesical, recto-urethral, excepting recto-vaginal cases others should be operated immediately. In rectovaginal fistula the operation can be postponed for a year with periodic dilatation of the fistula.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS:

It is the most common abdominal emergency encountered in the neonatal period. The reason for the hypertrophy of the pyloric musculature is not known and recent data suggests that it may not be even congenital. This is met with commonly in the first born male infant between the third and sixth weeks of life. Progressive and projectile vomiting without bile staining is associated with dehydration and constipation or reduced faecal residue. Peristaltic waves are often observed passing across the abdomen from left to right especially after feeding. A small firm tumour can be palpated in the right upper quadrant or near the midline. No firm diagnosis can be made, however, unless the tumour has been felt. Palpation of the infant's abdomen must be carried out from each side with a hand underneath the bed clothes. If the condition is suspected, a small feed may be given and the abdomen palpated with the left hand standing on the left side of the patient. The tumour is often felt when the pylorus contracts and it may be in the region of the kidney being pushed to the right by the hypertrophied stomach. Whether immediate surgery is indicated as soon as the diagnosis is established, is a matter of opinion. The operation is carried out under local anaesthesia and requires no elaborate preoperative correction of fluid balance as subcutaneous saline solution can be given immediately before operation with hyalase. Rammsteadt's operation of pyloromyotomy is done. Practically there is no operative mortality. The alternate method of medical treatment demands several weeks of skilled nursing and involves a very heavy risk of cross infection during the prolonged stay in the hospital. The choice of treatment is thus a matter of balancing the risks.

HIRSCHSPRUNG'S DISEASE OR AGANGLIONIC MEGACOLON:

It frequently presents itself as a severe acute intestinal obstruction in the neo-natal period. In the absence of acute obstruction the condition is not recognised usually till after a few months. It is a condition in which the terminal bowel has no parasympathetic ganglia within its walls. Because of this lack it results in its functional obstruction due to the inability to produce a co-ordinated wave. Most cases involve the rectum and the lower part of the sigmoid colon, but cases have been reported with involvement of the entire large bowel. The history in these cases is that in the first few days the baby had passed little or no meconium. Then it developed distension of the abdomen and greenish vomit. The rectal examination may produce sudden evacuation of flatus and faeces with reduction in the distension of the abdomen. Then the child remains well for a few days and again develops obstruction. It requires frequent saline washouts of the rectum. Laparotomy is needed to confirm the suspicion and a biopsy of the collapsed rectal wall will show absence of the ganglion cells. Treatment is by initial transverse

colostomy and later by resection of the abnormal segment and anastomosis of the colon to the anus. The colostomy is closed at a later date when the anastomoses have started functioning.

Other less common causes of intestinal obstruction in the neonatal period are internal hernia, incarcerated inguinal hernia, unusual intessuception, congenital bands and adhesions, extra-lumenal pressure due to large duplications of the intestinal tract, and internal vovulus due to mesenteric cysts.

Omphalocele or umbilical hernia is a defect in the abdominal wall with herniation of the abdominal contents into the base of the umbilical cord. It is covered only with peritonium and amniotic sac. Urgent repair is indicated, because the sac may rupture and peritonitis results. In small hernia, one stage reduction and complete closure is possible. But in the majority of them which are huge where almost the whole abdominal viscera including a part of the liver are inside the cord, two stage repair only is possible. In the first stage skin flaps are mobilised and the defect covered temporarily. The repair of the muscular and facial layers are done later when the abdominal cavity has enlarged. Omphalocele and diaphragmatic hernia may be associated with malrotation of the intestines.

Other conditions of the gastro intestinal tract that require emergency surgery are peritonitis and intestinal perforation and haemorrhage.

Common causes of peritonitis are due to infection from the infected umblical stump and this responds to antibiotic therapy. Other cause of peritonitis is due to an intra uterine rupture of the intestine and leakage of meconium. It is usually associated with intestinal atresia distal to the site of perforation. If a plain x-ray of abdomen is taken, speckled appearance can be seen due to calcification. Laparotomy and repair is necessary. Perforation of the stomach and duodenum are rare in this period though cases of peptic ulcer perforation have been reported. Perforation of the caecum may occur in a grossly distended colon of Hirschsprung's disease. Gas under the diaphragm in a plain x-ray of the abdomen will confirm the suspicion.

Gastro intestinal bleeding is not very common though they may occur in the neo-natal period. Causes may be due to hypoprothrombinaemia of the new born, oesophageal hiatus hernia, intestinal strangulation or hetrotrophic gastric mucosa. Hypoprothrombinaemia responds quickly to vitamin K. If bleeding persists and symptoms of associated lesions like hiatus hernia or strangulation present, appropriate treatment is indicated.

Certain conditions of the cerebrospinal system like hydrocephalus, *meningocele* and *meningomyelocele* may require immediate attention. When the child is born with a hydrocephalus and it progresses in size and when there is no paralysis of the limbs the baby should be transferred to a neuro surgical centre where a shunt operation to bypass the obstruction can be undertaken. L. P. is dangerous as it might produce pressure coning effect and hence is to be avoided.

Meningocele is a condition in which there is a defect in the vertebral arch and the meninges protrude through the gap. The skin covering is very

thin and liable to be ruptured. The cord is normally formed and there is no meningial defect. To prevent rupture of the sac and the development of meningitis many people advise immediate surgery. Since some of the cases are associated with incipient hydrocephalus or may develop one soon after birth or operation (Arnold-Chiari malformation), many neuro surgeons advise to wait for sometime and operate the meningocele later. During the period of waiting the swelling is protected with a firm rubber cap or a light aluminium cup. In meningomyelocele which is unfortunately more common, the neural tissue occurs on the surface and is incompletely differentiated. On the top of the swelling there is a raw area looking like granulation tissue is found. This should not be mistaken for ulceration of true skin. It is part of the nerve tissue itself. Many of these cases have incontinence of urine and faeces, and deformity or paralysis of the legs. This type is almost always associated with Arnold-Chiari-malformation. Prognosis is poor in these cases. These conditions may occur anywhere along the neuraxis, but commonly occur over the lumbosacral and cervical regions. Treatment of the condition is rather prolonged and prognosis is poor.

BIRTH INJURIES AND TRAUMA IN THE NEO-NATAL PERIOD:

The common birth injuries met with are in the head and limbs and rarely in the abdominal viscera. They follow often a very difficult or assisted delivery. Primiparity, prolonged labour and caphalo-pelvic disproportion are factors contributing to these injuries.

Head: Cephalhaematoma is due to presure of the presenting part on the resting os, commonly seen on the parietal region. Though it may be alarming in size, no active treatment is necessary. The temptation to aspirate the swelling should be avoided for fear of introducing infection.

Depressed fracture of the skull of more than 6 m.m. depth requires elevation to avoid late sequelae to the brain. Shallow ones may be left alone for the spontaneous correction with growth.

Cerebral injury: Anoxia due to prolonged and difficult labour may lead to damage of groups of nerve cells, resulting in gliosis or porencephalic cysts which may lead to cerebral palsy. Judicious administration of oxygen combined with efficient obstetrics will minimise the residual damage.

Haemorrhage may block the aqueduct of sylvius or the basal cysterns leading on to hydrocephalus at birth or soon after. Extradural or subdural haemorrhage may cause progressive compression of the brain. Bruises or haemotoma of the overlying scalp may give the clue. When absent other signs like hypotonicity of the limbs and twitching, cyanotic attacks, irregular respiration and pulse are all warning signs. The infant is often restless and irritable. There may be stiffness of the neck and the fontanalle are tense. The baby fails to suck properly. A carefully done lumbar puncture with the baby's head kept low may reveal blood in the C. S. F. If blood is present, the subdural space should be tapped by a needle through the coronal suture, well lateral to the fontanalle. A subdural haematoma or hygroma requires evacuation, and this is best done in a place where facilities are available as these require almost daily aspiration and on alternate sides.

Limb fractures are usually greenstick in type and require only simple splinting like 'gallows splint'. Even if there is gross angulation they get corrected as the baby grows.

Fractures of clavicle or ribs are often missed and recognised only later by the presence of the callus.

Nerve lesions–are well recogonised as result of traction during delivery. The commonest is the Erb palsy affecting the upper cords of the brachial plexus. Muscle paralysis of the deltoid, supraspinatus, coracobrachialis and a brachioradialis. The arm is kept internally rotated and abducted. Treatment is to keep the limb abducted and externally rotated by pinning the sleeve of the baby's jacket to the pillow. Later on splints are necessary. Some cases recover atleast partially. Others require orthopaedic correction at a later date.

Visceral injuries–are rare. Cases of intra peritonial rupture of liver or spleen have been occasionally reported.

Besides the above, two other conditions which are entirely due to the negligence of the attending personnel are seen. One is the accidental introduction of respiratory stimulant through the umbilical artery (instead of the vein) and this leads to patches of cutaneous gangrene in the limbs due to vascular spasm. Another catastrophy is to leave carelessly over distended and improperly closed hot water bottle by the side of the baby to keep it warm. Cases of extensive burns due to bursting of the hot water bottle or leakage from its mouth, have been reported. Both these are avoidable tragedies.

CONCLUSION:

In conclusion one would like to stress the necessity on the part of the attending doctors, midwives, nurses, paediatricians and surgeons to be aware of the various conditions that need emergency surgery in the neonatal period. To be effective and life saving such conditions must be diagnosed earlier and necessary surgical inference be made by competent surgeons. Midwives and nurses must be taught the various causes of respiratory embarassment to enable them to notify the attending doctor immediately. By early recognition and early surgery combined with judicious replacement of fluid loss and with efficient anaesthesia, many of these unfortunate children could be salvaged and made to live a useful life.

MADRAS MEDICAL COUNCIL

The Madras Medical Register — 1962.

The Madras Medical Register for 1962 is under preparation. Registered medical practitioners under the Madras Medical Registration Act, 1914 are requested to intimate their present address to make necessary corrections in the Register. They are also requested to intimate the full names, register numbers and addresses of any practitioners appearing in the Register for 1961 who, to their personal knowledge, are dead.

111, Mount Road, Madras-16,
13th November, 1962.

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ABSTRACTS AND EXCERPTS

A STUDY OF THE GERMAN OUTBREAK OF PHOCOMELIA:

In 1960 Kosnow and Pfeiffer reported a new clinical syndrome; the essential feature was phocomelia. Phocomelia means "seal extremities", the word comes from 2 Greek words phokos meaning "Seal" and melos meaning "extremities". The incidence of the malformations rapidly increased and by the end of 1961, thousands of children had been born with severe malformations of the extremities. The causative factor appeared to be an exogenous agent. Many retrospective studies were instituted.

Almost simultaneously Lenz in Hamburg and McBride in Australia suspected that the malformations were caused by taking thalidomide in early pregnancy.

Thalidomide is a synthetic drug developed by Grunethal and marketed in Germany as Contergan, in England as Distaval, in Portugal as Softenon, as Kevadon and Talimol in the United States (though not released by our Food and Drug Administration) and as Kevadon and Talimol in Canada. It was an excellent sleeping tablet and tranqulizer and was added to a number of other compounds which were used for the relief of grippe, migraine, and asthma and also for expectorants.

The circumstantial evidence is overwhelming that this drug does cause severe malformations of the extremities. Grunenthal showed that the drug passed through the placenta of rabbits. Distillers Ltd., in England, have reproduced the malformations in rabbits by feeding the drug to pregnant animals. Murphy has produced phocomelia in the rat by an enormous dose of thalidomide given intraperitoneally to a pregnant animal.

Certainly new drugs, which are of use to persons of all ages and which enter the blood stream, should be screened for possible teratogenic action. Furthermore, young women must learn that nothing is foolproof and new drugs should not be taken unless absolutely necessary, as the damage often occurs before the woman knows she is pregnant.

This drug shows how serious the side effects of drugs may be and it also opens up a new avenue to the study of the etiology of malformations.

— *Helen B. Taussig, M. D., Baltimore, J. Amer. Med. Ass. 180, 13, 1962.*

OBSERVATIONS ON PREDNISOLONE IN TREATMENT OF CONFLUENT SMALL POX:

In this study on 20 cases of confluent small pox treated with prednisolone and penicillin, with 20 other cases receiving only penicillin it has been observed that prednisolone reduces toxæmia, effectively controls the secondary rise of temperature during pustular stage and reduces duration of vesicular and pustular stages. Scab formation occurs more quickly thus

reducing the period of hospitalisation. The recovery rate in patients treated with prednisolone is increased and the ophthalmic complications more effectively controlled. No significant beneficial effect on the residual scarring was observed.

— B. K. Sharma & S. C. Jain (Kanpur) Ind. J. of Med. Sciences 16, 698-701, 1962.

FOETAL COMPLICATION OF VACCINATION IN PREGNANCY:

A 19-year old woman had her primary vaccination when she was about 2½ months pregnant. She was ill for 2 days one week after vaccination, but made an eventful recovery. She aborted at 34 weeks; the twins deiivered were alive but did not survive. Both twins showed discrete and confluent vaccinal lesions. In order to avoid possible virus infection of the foetus at this vital stage of development it would appear prudent not to perform primary vaccination of the pregnant mother in the first trimester unless there has been direct exposure to small pox.

— Tucker, S. M. & Sibson, D. E. B. Med. Journal July 28, 1962 p. 237.

PRENATAL INFECTION WITH VACCINIA VIRUS—REPORT OF A CASE:

A 22 year old primigravida was given primary vaccination at the 19th week of pregnancy. This produced a normal take, but she was unwell eight days later with fever for 2 days. At 22 weeks, she aborted. The foetus was well formed but was moderately severely macerated with partial epidermal loss. Large, congested, umbilicated skin lesions were seen all over the trunk. All organs showed maceration and vaccinal lesions were seen on the kidneys, liver and lungs. The placental tissue revealed necrotic areas throughout. Vaccina virus was grown from one of the skin lesions. This case demonstrates that the foetus is at risk from maternal vaccinia in mid-term

— Entwistle, D. M. and others B. M. J. July 28, 1962, p. 238.

THE ENTEROVIRUSES:

The term "enterovirus" was advanced in 1957 to embrace the poliomyelitis, Coxsackie, and ECHO groups of viruses, all of which infect the human intestinal tract, are recoverable from the faeces during the course of infection, and are similar with respect to size and to certain physical properties.

In 1947, poliovirus was the only known member of this family and the existence of 3 immunological types of polioviruses was still being established. In 1948, the first strains of Coxsackie virsus were isolated from the faeces of children with clinical poliomyelitis by the inoculation of newborn mice. In 1947, Enders and his coworkers described the successful cultivation of poliovirus, using in vitro cultures of non-neural tissues, and opening the way for the application of tissue culture methods for the

recovery and recognition of a broad range of viruses. The subsequent recovery in different laboratories of new viruses from the human intestinal tract–viruses, that were detected by their citopathic effects in tissue cultures, that were distinct from Coxsackie and poliovirus and whose significance to human health were unknown led to their designation as Enteric Cytopathic Human Orphan viruses, i. e. ECHO viruses. The family of enteroviruses has now grown to include over 60 immunologically different agents distributed by groups as follows: polioviruses 3 types; group A Coxsackie viruses, 24 types; group B Coxsackia viruses, 6 types; and ECHO viruses 28 types. New types are still being recognised. This agent originally classified as ECHO 10 virus was recently removed from the ECHO group because of its larger size and other differences; this agent and 2 immunologically related viruses now comprise the Reovirus group.

From the hundreds of published reports presenting observations of the association of enterovirus infections with a diversity of human illnesses, unequivocal evidence of certain causal relationships has emerged. The list of illnesses attributed to one or more types of enteroviruses now includes herpangina, epidemic pleurodynia (Bornholm disease), pericarditis and myocarditis, febrile illnesses with varied exanthems, acute respiratory illnesses, mild summer diarrhoea, and a spectrum of central nervous system diseases (e. g. the aseptic meningitis syndrome, encephalitis and paralytic illness). In addition, there is appreciable evidence that infections with certain Coxsackie viruses may account for some instances of sudden death in infants having only minor or no recognized premonitary signs of illness.

In a study of over 500 patients observed in the Los Angeles Country General Hospital in a single year, investigators identified infections with 20 different enteroviruses among patients with aseptic meningitis and meningoencephalitis. Further evidence was found, adding to previous reports, that a number of agents other than poliovirus (e. g. Coxsackie viruses B-2, B-3, B-5, ECHO 9 virus and the mumps virus) may cause the clinical syndrome of paralytic poliomyelitis. Through continuing observations involving collaboration of the clinician, the virologist and the epidemologist further light may be shed on the importance of the various types of enteroviruses to the occurrence of human illness in different geographic areas and from year to year.

— *Editorial, J. American Medical Association 179, 720 (1962).*

VIRAL ISOLATION FROM CENTRAL NERVOUS SYSTEM INFECTIONS IN PEDIATRIC PRACTICE:

Virus isolation studies from 151 samples of stool were carried out as a routine diagnostic procedure in 85 cases of suspected viral infections of C. N. system. The clinical diagnosis of these was as follows: aseptic meningitis 11 cases, encephalitis 11, acute spinal poliomyelitis 37, bulbar polio 6, bulbospinal polio 1, transverse myelitis 2, Guillain Barre syndrome 1, and 8 cases of miscellaneous involvement of C. N. S. Polio type 1 was isolated in 40 cases, type 3 polio in 11 cases, Coxsackie B2 in 5, B4 in 1, B5 in 4, and ECHO in 6 cases. Clinical features in each group of the

illnesses studies are presented and the importance of viral isolation as a diagnostic procedure is emphasised. Role of each of the isolated viruses in the etiology of C. N. S. infection is discussed. This work was carried out at the laboratory of Riley Children Hospital, Indianapolis, Indiana, U. S. A.

— C. I. Jhala, Ind. Journ. Med. Sciences 16, 787–794, 1962.

PRIMARY ATYPICAL PNEUMONIA :

Although speed in the diagnosis of an infection is important to the individual patient, the real importance of any method lies in the new knowledge which it uncovers, knowledge unobtainable in other ways. In the present case, the possibility of discovering new agents and of unravelling biological processes makes immunofluorescence of potential value in many fields of biology. An example of the application of immunofluorescence to research problems follows :

The first example is that of the etiology of primary atypical pneumonia. In 1943, a virus was isolated from patients with this syndrome, associated with "cold agglutinins" by Eaton, Meiklejohn, and van Herick. These investigators had great difficulty in propagating the agent, which grew only in chick embryos. However, there were no evident lesions and hence no way of recognizing the presence of the virus in the embryos. Suspension of such embryo tissue, however, would cause the production of hemorrhagic lesions in Western cotton rats, nor did the rats become clinically ill. Under these circumstances, it was very difficult to study the virus, or to look for neutralizing antibodies in the serum of convalescents. The frequent presence of "cold agglutinins" and of agglutinins for a strain of streptococci named "MG" further confused the issue. In addition, the suspicion was strong that not all cases with the clinical syndrome of atypical pneumonia were brought about by the same infectious agent. Until about 1953, therefore, the etiology of atypical pneumonia was unsettled and the status of the Eaton virus uncertain.

In the fall of 1952, an epidemic of atypical pneumonia broke out in a private boys' school, and the school physician, Dr. James Heyl, began to collect specimens of blood and sputum, and to store them frozen against the day when he or someone else would have the opportunity to study them further. About a year later, Dr. Chien Liu, then at Harvard Medical School, began to study this material. Obtaining some atypical pneumonia virus from Eaton, who had propagated his agent throughout the intervening years, Liu soon found that the serum from the convalescents of the epidemic would react with virus in the cytoplasm of the bronchial epithelium of infected embryos. This was determined by the indirect method described herein. Strangely enough although the virus is now in plentiful supply and positive sera of high titre can be found, no other method of revealing the virus or of searching for antibodies, for example, by complement fixation, has so far been successful. In the isolation of new strains and in the retrospective diagnosis of the disease by detecting rises in antibody, it is still necessary to use Liu's method of reacting sections of infected embryo lung with the serum, then testing the section for human gamma globulin by labeled antibody.

By this somewhat laborious means, Chanock and his colleagues at the National Institute of Allergy and Infectious Diseases in the U. S. A. have found that a high percentage of cases of pneumonia in marine recruits at Parris Island are due to the Eaton agent, and that 10 per cent of childhood respiratory infections in a community, which they have had under study are likewise due to the organism.

Not all cases reasonably diagnosed as atypical pneumonia are due to the Eaton agent. Some have been found associated with adenoviral strains, though without cold agglutinins. Some outbreaks with similar clinical features may well be found due to some other agent, but there is now no doubt that a substantial number of them will prove to be due to the virus isolated more than 17 years ago by Eaton.

—A. H. Coons in International Forum—Therapeutic Notes.

STATE PRESIDENT'S LETTER:

APPEAL TO THE PRESIDENTS AND SECRETARIES OF ALL THE LOCAL BRANCHES OF THE INDIAN MEDICAL ASSOCIATION IN MADRAS STATE

Dear Doctor,

You are all aware that our Country is now facing a very grave situation by reason of the Chinese aggression on our borders in the NEFA and LADAKH areas. The President of India has proclaimed a State of Emergency in the Country; and the Prime Minister of India has, in his appeal to the Nation, called for all-out efforts on the part of every citizen to help the Nation to tide over the crises, and to contribute generously to the National Defence Fund.

There is every need for an organised effort to harness popular enthusiasm to gear up collections for the Defence Fund; and an enlightened association like ours, consisting of highly qualified members pursuing a noble profession, should be second to none in rallying round our Government and in extending its utmost help and co-operation.

The Indian Medical Association, at its state and local levels, should join the popular response that is being made all over the Country to the Prime Minister's call; and generous and liberal contributions should be made to the National Defence Fund by both individual members and branches of the Indian Medical Association for the relief of the Indian jawans fighting on the frontier. May I request you, and through you all the members of your branch of the Association, to contribute to the Defence Fund in a generous manner?

I am confident that members of our association - both the general practitioners and those in Government and other services - will respond to my appeal in a handsome manner. Thanking you,

Yours sincerely,

C. NATHAMUNI NAIDU,
President.

1st November, 1962

ASSOCIATION NOTES

BRANCH NOTES

Anamallais Branch :

1. The clinical meeting for the month of June was held on 22—6—'62 at the residence of Dr. K. John at Valparai estate with Dr. M. K. R. Jayachandran in the chair, 11 members were present. There was a symposium on anti-partum haemorrhage. Dr. Narayanan gave a concise account of the pathology of the condition. The signs and symptoms were discussed by Dr. (Mrs.) Dissawalla and Dr. Dissawalla gave a talk on the management of the condition. There was a lively discussion on the subject in which all members took part. The necessity for having a permanant blood bank at Anamallais was keenly felt by all members. The president in his remarks expressed his desire that all the obstetrical conditions should be capable of being tackled in the respective garden hospital itself where facilities could be widened. He also hoped that some permanant arrangement for securing blood for emergency would be made in the near future.

2. A clinical meeting was held on 20th July, 1962 at the residence of Dr. K. S. Venkatachalam at Stanmore estate with Dr. M. K. R. Jayachandran in the chair ; 12 members were present. There was a film show on :

(1) Griseo Fulvin story
(2) Fungus infection treated with Griseo Fulvin
(3) A Vitamin emerges
and (4) Defence against polio

sent by the courtesy of M/s. Glaxo Laboratories. The informative, useful and educative value of the films were appreciated by all members.

3. A clinical meeting held on 17th August 1962 at Dr. Janardan's residence at Sholayar with Dr. M. K. R. Jayachandran in the chair; 10 members were present. There was a symposium on accidental haemorrhage. Dr. K. Viswanatha Menon gave a concise account of the aetiology and pathology of the condition. The signs and symptoms were discussed by Dr. K. John. Afterwards Dr. Jayachandran gave an elaborate and descriptive talk on the management and treatment of the condition. There was a lively discussion on the subject in which all members took part.

Madurai Branch :

1. The general body and monthly meeting of the Madura Medical Association was held on Saturday, the 11th August 1962 under the presidentship of Dr. K. Ramachandran, M. S., Madurai. Election of two Vice-Presidents for the Madras State Branch of the Indian Medical Association, for the year 1962–'63 was conducted.

Dr. R. Subramaniam, B. SC., M. D., M. R. C. P., Physician, Government General Hospital and Professor of Medicine, Madras Medical College, Madras, gave an interesting lecture on ' Some Aspects of Congenital Heart Disease '.

2. The picnic-cum-monthly meeting of the Madura Medical Association was held on Sunday, the 16th September 1962 under the presidentship of Dr. K. Ramachandran, M. S., Madurai at Vaigai dam. A few interesting games were conducted. Dr. U. Mohammed, M. D., Assistant Professor of Medicine, Madurai Medical College and Assistant Physician, Government Erskine Hospital, Madurai gave an interesting lecture on 'Random thoughts on certain aspects of medicine'.

3. The monthly meeting of the Madura Medical Association was held on Monday, the 1st October 1962, under the presidentship of Dr. K. Ramachandran, M. S., Madurai. Dr. Manuel Anderson, M. D., M. R. C. P., D. C. H., Consultant Physician, Ingham Infirmary, South Shields, gave an interesting lecture on 'Some Aspects of Coronary Thrombosis'.

Pudukottai Branch:

1. The monthly meeting of the association was held on 24—6—1962 at 5 P. M. in the premises of the Town General Hospital, Pudukottai. Dr. C. R. Thiruvengadam, M. B. B. S., the President presided. At the outset the members stood in silence for half a minute in memory of late Dr. Venkappa.

Dr. T. V. Venkatesan, M. B. B. S., F. A. A. D. S., F. C. C. P., (U. S. A.), F. A. I. M., F. D. S., (Lond.), Physician and Dermatologist addressed the members on 'Pediatric Dermatology'. The lecturer dwelt on the subject quite clearly illustrating with slides and pictures. There was a short discussion with questions and answers.

2. The combined monthly meeting of Chettinad and Pudukottai branches of the Indian Medical Association was held on Monday, the 30th July 1962 at 4-30 P. M., in the Lecture Hall of the Alagappa Training College, College Compound, Karaikudi. A special meeting of the Chettinad branch was held under the presidentship of Dr. A. Vaidyanathan to elect the President for the year 1962-'63.

After tea, a synopsis on Tuberculosis with Dr. K. Balakrishnan, M. B. B. S., T. D. D., Tuberculosis Specialist, Madurai was held. Dr. V. K. Ramachandran, M. D., T. D. D., Pudukottai, spoke on Pulmonary T. B. touching all the aspects but put emphasis on its pathology, diagnosis, symptoms, differential diagnosis, treatment and prevention. Though the subject was elaborate he made it lively, interesting and educative.

Dr. A. S. Annamalai, M. B. B. S., Specialist in T. B. bones and joints, Madurai gave a lecture on T. B. bones and joints. His lecture gave us all the relevant points in the diagnosis and early treatment. Both the lecturers illustrated their subjects with interesting x-ray pictures.

3. The combined monthly meeting of the Pudukottai and Chettinad branches of the Indian Medical Association was held at 5 P. M. on Sunday, the 26th August 1962 at the Town General Hospital, Pudukottai. Dr. C. R. Thiruvengadam, M. B. B. S., the Chief Medical Officer presided.

Dr. M. D. Ananthachari, M. D., Retd. Principal, Madurai Medical College gave a lecture on 'How to deal with raised blood pressure'. The lecture was very interesting and exhaustive in that he dealt on

all namely aspects of raised blood pressure, delibrately avoiding the term hypertension. An interesting discussion followed in which many members took part.

Ramanathapuram Branch:

1. The 32nd Annual and General body meeting of the Ramnad Branch of the Indian Medical Association was held on Sunday, the 26th August 1962 by 5 P. M. at the Kamak Hall, Sivakasi. Dr. S. Raju Ayyar presided over the function. The secretary read the annual report for the year 1961–'62 and adopted. The following office-bearers were elected for the year 1962–63:

President	:	Dr. S. Raju Ayyar, L. M. P., Srivilliputtur
Vice-President	:	„ T. Muthuswamy, M. B., B. S., Virudhunagar
Secretary & Treasurer	:	„ K. C. Natarajan, M. B., B. S., Sivakasi
Managing Committee	:	(1) Dr. Sadasivam,
		(2) Dr. Charles Devadoss
State Council Representative	:	Dr. D. K. Jayabalaraj, L. M. P., Sivakasi
		„ H. Lysander, L. M. P., Virudhunagar.
Central Council Representative	:	Dr. S. Raju Ayyar, L. M. P., Srivilliputtur.

Then the election of two vice-presidents for Madras State Branch of the Indian Medical Association was conducted. The president then called on the speaker Dr. S. Shanmugam, F. R. C. S., Assistant Surgeon, Govt. Erskine Hospital, Madurai to address the members. Dr. Shanmugam gave a very good lecture on 'The management of undescended testes'. The meeting came to an end with a grand dinner.

2. An ordinary meeting of the Ramnad District Branch I. M. A., was held on 23—9—1962 by 5 P. M. at the premises of Hajee P. Syed Md., High School, Virudhunagar. Dr. S. Raju Ayyar presided over the function which commenced after tea. Dr. A. A. Kabir, M. B., B. S., D. A. (Lond.), F. F. A. R. C. S. (Eng.), Chief Anaesthetist, Government Erskine Hospital, Madurai gave a lecture on 'Anaethesia in general practice'.

Salem Branch:

An extra-ordinary meeting of the Salem Branch of the Indian Medical Association was held on Thursday, the 20th September 1962 at 7-30 P. M. at Hotel 'Dwaraka', Salem. Dr. Jayaramachandran presided. The minister for health, Madras State, Srimathi Jothi Venkatachalam was the guest of honour.

The president brought to the notice of the minister the following points:—

(1) There are several unqualified persons practising medicine in this state using modern drugs and requested the minister to take measures to prevent such practices.

(2) Modern drugs, especially antibiotics are sold in shops and are made available to anybody without proper prescriptions by qualified doctors.

(3) Some unqualified persons are putting up birth-control clinics, and are actually doing criminal abortions. In many cases such criminal abortions have ended in mortality and a lot of morbidity. If such people are left free, one might as well convert our family planning clinics into clinics for legalised abortions. The president requested that strong action must be taken against such persons who choose to violate the law.

(4) The president suggested that a medical college for women may be started at Salem as plenty of clinical material is available in Salem and women's education is assuming greater importance.

The minister in her reply appealed to all the doctors to devote some of their time to rural medical service. She said that there are several primary health centres in the state without doctors. She said that a separate committee is appointed to deal with the question of spurious drugs, etc. She would prefer to have a medical college with co-education at Salem than a purely women's medical college as many women doctors do not practice medicine or give it up half-way. She was not aware of people advertising birth control clinics and conducting criminal abortions. If such cases are brought to her notice, she would take steps to punish the offenders and she would not advocate criminal abortions by qualified doctors. She said it is preferable to educate the public in the methods of family planning.

The meeting concluded with a dinner. The Citadel Fine Pharmaceuticals, Madras were the hosts for the dinner.

Tiruchi Branch:

1. A monthly meeting of the association was held on Saturday, the 28th July 1962 in the premises of the Central Hospital, Golden Rock. 32 members and 8 visitors were present. Dr. T. V. Ranganathan, the president was in the chair. The president introduced the speaker of the day Dr. C. H. Sivaraman, M. B., B. S., M. R. C. S., D. T. M. & H., Divisional Medical Officer, Southern Railway, Podanur to the members and requested him to give his talk on 'Jaundice'. The lecturer gave an excellent talk on the subject which was very much appreciated by the members. In the lengthy discussion that took place after the lecture, many members took part.

2. A monthly meeting of the association was held on Saturday, the 25th August 1962 in the medical association premises, Trichy. 30 members and 5 visitors were present. Dr. T. V. Ranganathan, the president was in the chair.

The election of two Vice-Presidents for the Madras State Branch of the I. M. A., for the year 1962—'63 was held.

Proposed from the chair the following resolution was passed unanimously:

"Having learnt of a proposal before the Madras Government to shift the Kilpauk Medical College to one of the cities in the moffusil, this meeting strongly urges upon the Government to locate the above medical College in Tiruchirapalli. Tiruchirapalli is the geographical centre of Tamilnad, has 3 flourishing men's colleges and 2 women's colleges already, and is getting a regional engineering college in the near future and as such it will be extremely apt that the city has a medical college also. Tiruchirapalli is a rapidly developing city in the south and its further rapid growth is assured by the location of the high pressure boiler plant here. The government head quarters hospital here is built on most uptodate lines and fortunately has around it enough lands for enormous expansion of a medical college and hospital building. It is, therefore, felt that for all the above reasons that Tiruchirapalli is an ideal place for locating the Kilpauk Medical College".

Then the president introduced the lecturer Dr. V. Sankaran, M. S., Professor of Surgery, Thanjavore Medical College and Surgeon, R. M. Hospital, Thanjavore to the members and requested him to give his talk on 'Volvulus in South India'. The lecturer gave an interesting talk on the subject which was very much appreciated by the members.

3. A monthly meeting of the association was held on Sunday, the 30th September 1962 at the medical association premises, Tiruchi. As the president was absent, the vice-president Dr. C. Ramanujachary, took the chair.

The president introduced the speaker Dr. (Major) G. A. Naidu, M. B., B. S., F. D. S., Honorary Dermatologist, Government Erskine Hospital and Honorary Lecurer in Dermatology, Madurai Medical College, Madurai to the members and requested him to give his talk on 'Recent Advances in Dermatology and Leprology'. The lecturer gave an excellent talk on the subject which was very much appreciated by the members.

Then the president introduced Dr. T. Titus, M. B., B. S., District Medical Officer, Tiruchi and requested him to give his talk on 'Peptric Ulcer and its Management'. This lecture also was very much appreciated by the members.

A film on 'Cancer' was shown to the members by M/s. Sarabhai Chemicals, Bombay.